FIG. 1

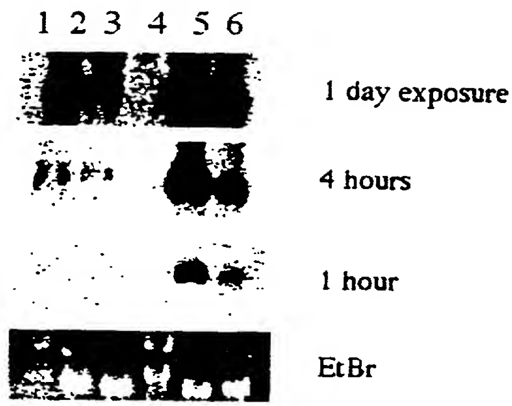


FIG. 2A

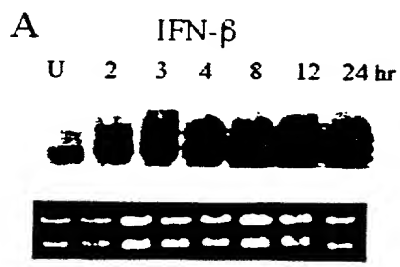
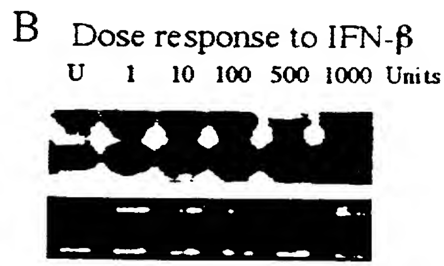


FIG. 2B



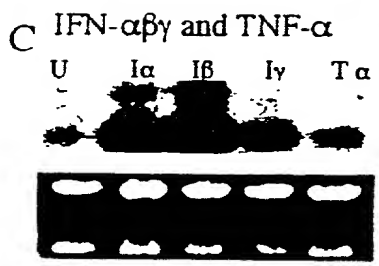


FIG. 2C

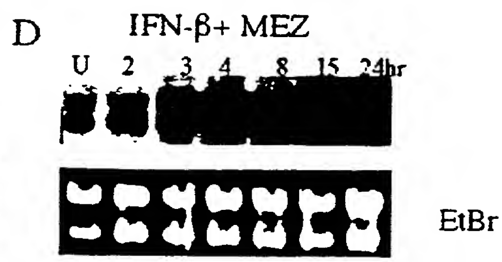


FIG. 2D

FIG. 3A

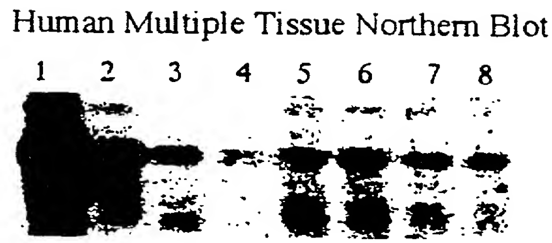

Human Multiple Tissue Northern Blot
1 2 3 4 5 6 7 8

FIG. 3B

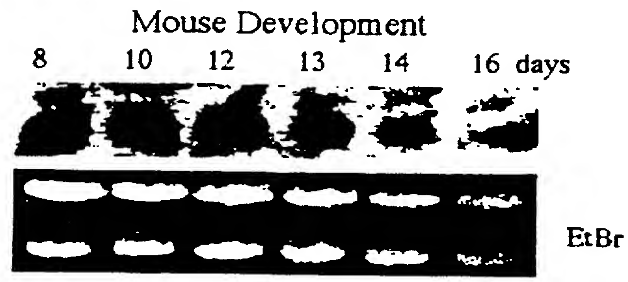

Mouse Development
8 10 12 13 14 16 days
EtBr

FIG. 4A

```
human      TTGAAGATTACAATGGTGACATGGACTTCAAAATAGCTGG     40
mouse      ...........AATGGTGACATGGATTTCAAAATAGCCGG     29
Consensus             aatggtgacatgga ttcaaaatagc gg

human      CACTAATAAAGGAATAACTGCATTACAGGCTGATATTAAA     80
mouse      TACAAATAAAGGAATAACTGCATTACAGGCTGATATTAAG     69
Consensus   ac aataaaggaataactgcattacaggctgatattaa

human      TTACCTGGAATACCAATAAAAATTGTGATGGAGGCTATTC    120
mouse      TTACCTGGAGTACCAATTAAAATTATAATGGAAGCCATCC    109
Consensus  ttacctgga taccaat aaaatt t atgga gc at c

human      AACAAGCTTCAGTGGCAAAAAAGGAGATATTACAGATCAT    160
mouse      AACAAGCGTCAGTGGCAAAGAAGGAGATACTGCAGATAAT    149
Consensus  aacaagc tcagtggcaaa aaggagata t cagat at

human      GAACAAAACTATTTCAAAACCTCGAGCATCTAGAAAAGAA    200
mouse      GAACAAAACGATTTCAAAACCTCGAGCATCAAGAAAAGAA    189
Consensus  gaacaaaac atttcaaaacctcgagcatc agaaaagaa

human      AATGGACCTGTTGTAGAAACTGTTCAGGTTCCATTATCAA    240
mouse      AATGGACCAGTTGTAGAAACAGTAAAGGTTCCATTATCAA    229
Consensus  aatggacc gttgtagaaac gt  aggttccattatcaa

human      AACGAGCAAAATTTGTTGGACCTGGTGGCTATAACTTAAA    280
mouse      AACGAGCAAAATTCGTTGGGCCTGGTGGATATCACTTAAA    269
Consensus  aacgagcaaaatt gttgg cctggtgg tat acttaaa

human      AAAACTTCAGGCTGAAACAGGTGTAACTATTAGTCAGGTG    320
mouse      AAAACTCCAGGCTGAGACAGGTGTAACAATTAGTCAGGTT    309
Consensus  aaaact caggctga acaggtgtaac attagtcaggt

human      GATGAAGAAACGTTTTCTGTATTTGCACCAACACCCAGTG    360
mouse      GATGAAGAAACCTTCTCCATATTTGCACCAACACCTACTG    349
Consensus  gatgaagaaac tt tc  tatttgcaccaacacc a tg

human      TTATGCATGAGGCAAGAGACTTCATTACTGAAATCTGCAA    400
mouse      CAATGCATGAAGCAAGAGATTTCATTACAGAAATTTGCAG    389
Consensus    atgcatga gcaagaga ttcattac gaaat tgca

human      CGATGATCAGGAGCAGCAATTAGAATTTGGAGCAGTATAT    440
mouse      AGATGATCAAGAGCAACAATTAGAATTTGGAGCAGTTTAT    429
Consensus   gatgatca gagca caattagaatttggagcagt tat

human      ACCGCCACAATAACTGAAATCAGAGATACTGGTGTAATGG    480
mouse      ACCGCGACAATAACTGAAATCAGAGACACTGGAGTGATGG    469
Consensus  accgc acaataactgaaatcagaga actgg gt atgg
```

FIG. 4B

```
human       TAAAATTATATCCAAATATGACTGCGGTACTGCTTCATAA    520
mouse       TAAAACTGTATCCAAACATGACTGCAGTGCTGCTTCATAA    509
Consensus   taaaa t tatccaaa atgactgc gt ctgcttcataa

human       CACACAACTTGAT.AACGAAAGATTAAACATCCTACTGCC    559
mouse       TTCACAACTTGACCAACGAAAGATTAAACATCCCACTGCC    549
Consensus     cacaacttga  aacgaaagattaaacatcc actgcc

human       CTAGGATTAGAAGTTGGCCAAGAAATTCAGGTGAAATACT    599
mouse       CTAGGACTAGAGGTTGGCCAAGAAATTCAGGTCAAATACT    589
Consensus   ctagga taga gttggccaagaaattcaggt aaatact

human       TTGGACGTGACCCAGCCGATGGAAGAATGAGGCTTTCTCG    639
mouse       TTGGCCGTGATCCAGCTGATGGAAGAATGAGGCTTTCTCG    629
Consensus   ttgg cgtga ccagc gatggaagaatgaggctttctcg

human       AAAAGTGCTTC                                 650
mouse       TAAAGTACTTC                                 640
Consensus    aaagt cttc
```

FIG. 5

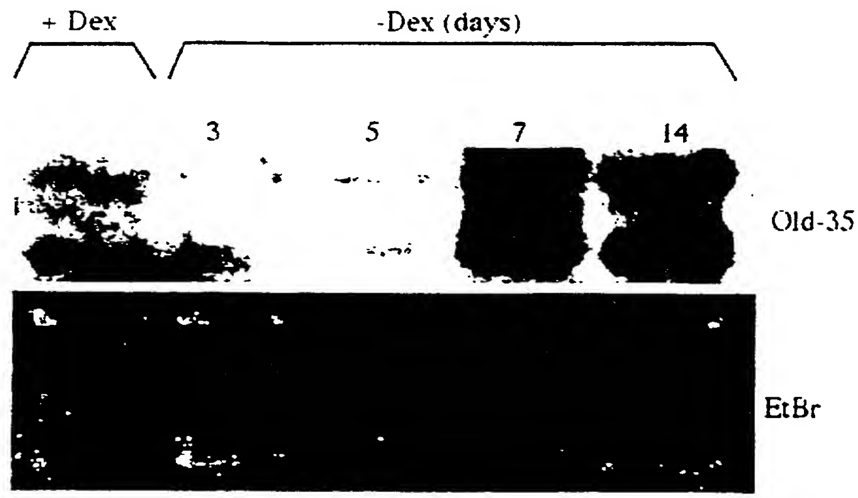


FIG. 6

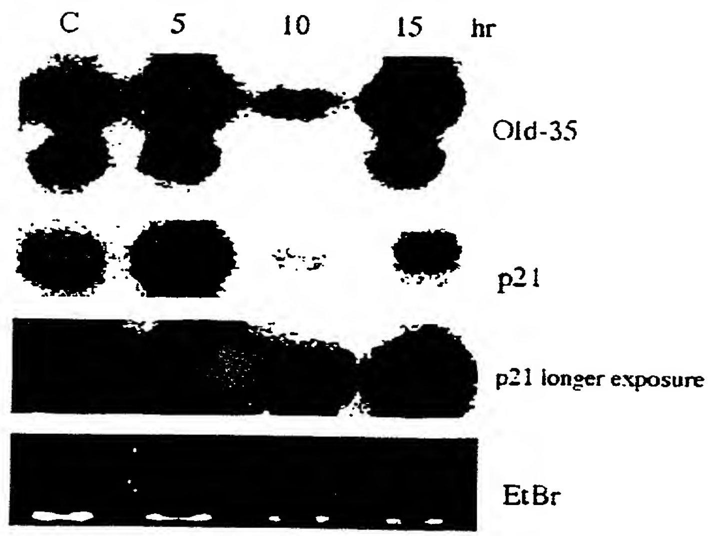


FIG. 7

Hu GM-CSF	UAAUAUUUAUAUAUUUAUAUUUUUAAAAUAUUUAUUUAUUUAUUUAA
Hu IFN-α	UAUUUAUUUAA
Hu Il 2	UAUUUAUUUAAAUAUUUAAAUUUUAUAUUUAAU
Hu TNF	AAUUAAUUUAUUAUUUAUUUAUUAUUUAUUUAUU
C-fos	GUUUUUAAUUUAUUUAUUAAGAUGGAUUCUCAGAUAUUUAUAUUUUUU AUUUUAUUUUUUUU
Old-35	AUUUACAUGUGCCAUUUUUUUAAUUCGAGUAACCCAUAUUUGUUUAAUU GUAUUUACAUUAUAAAUCAAGAAAUAUUUAUUAUUAAAAGUAAGUC AUUUAUACAUCUUAGA

FIG. 8A

Response of Old-35
To IFN-β Treatment
In the Presence of Cyclohexamide

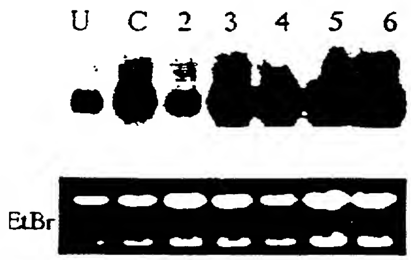


FIG. 8B

Half-life of Old-35 in IFN- β+MEZ
Treated HO-1

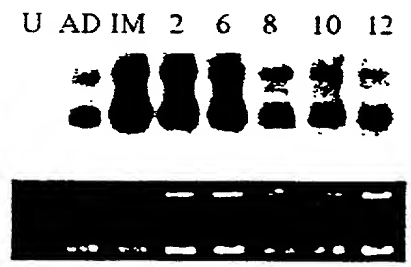


FIG. 9A

GATGGTCCTT TCCTTCTGCC ACGGCGGGAT CGGGCACTCA CCCAGTTGCA
AGTGCGAGCA CTATGGAGTA GCGCAGGGTC TCGAGCTGTG GCCGTGGACT
TAGGCAACAG GAAATTAGAA ATATCTTCTG GAAAGCTGGC CAGATTTGCA
GATGGCTCTG CTGTAGTACA GTCAGGTGAC ACTGCAGTAA TGGTCACAGC
GGTCAGTAAA ACAAAACCTT CCCCTTCCCA GTTTATGCCT TTGGTGGTTG
ACTACAGACA AAAAGCTGCT GCAGCAGGTA GAATTCCCAC AAACTATCTG
AGAAGAGAGG TTGGTACTTC TGATAAAGAA ATTCTAACAA GTCGAATAAT
AGATCGTTCA ATTAGACCGC TCTTTCCAGC TGGCTACTTC TATGATACAC
AGGTTCTGTG TAATCTGTTA GCAGTAGATG GTGTAAATGA GCCTGATGTC
CTAGCAATTA ATGGCGCTTC CGTAGCCCTC TCATTATCAG ATATTCCTTG
GAATGGACCT GTTGGGGCAG TACGAATAGG AATAATTGAT GGAGAATATG
TTGTTAACCC AACAAGAAAA GAAATGTCTT CTAGTACTTT AAATTTAGTG
GTTGCTGGAG CACCTAAAAG TCAGATTGTC ATGTTGGAAG CCTCTGCAGA
GAACATTTTA CAGCAGGACT TTTGCCATGC TATCAAAGTG GGAGTGAAAT
ATACCCAACA AATAATTCAG GGCATTCAGC AGTTGGTAAA AGAAACTGGT
GTTACCAAGA GGACACCTCA GAAGTTATTT ACCCCTTCGC CAGAGATTGT
GAAATATACT CATAAACTTG CTATGGAGAG ACTCTATGCA GTTTTTACAG
ATTACGAGCA TGACAAAGTT TCCAGAGATG AAGCTGTTAA CAAAATAAGA
TTAGATACGG AGGAACAACT AAAAGAAAAA TTTCCAGAAG CCGATCCATA
TGAAATAATA GAATCCTTCA ATGTTGTTGC AAAGGAAGTT TTTAGAAGTA
TTGTTTTGAA TGAATACAAA AGGTGCGATG GTCGGGATTT GACTTCACTT
AGGAATGTAA GTTGTGAGGT AGATATGTTT AAAACCCTTC ATGGATCAGC
ATTATTTCAA AGAGGACAAA CACAGGTGCT TTGTACCGTT ACATTTGATT
CATTAGAATC TGGTATTAAG TCAGATCAAG TTATAACAGC TATAAATGGG
ATAAAAGATA AAAATTTCAT GCTGCACTAC GAGTTTCCTC CTTATGCAAC
TAATGAAATT GGCAAAGTCA CTGGTTTAAA TAGAAGAGAA CTTGGGCATG
GTGCTCTTGC TGAGAAAGCT TTGTATCCTG TTATTCCCAG AGATTTTCCT
TTCACCATAA GAGTTACATC TGAAGTCCTA GAGTCAAATG GGTCATCTTC
TATGGCATCT GCATGTGGCG GAAGTTTAGC ATTAATGGAT TCAGGGGTTC
CAATTTCATC TGCTGTTGCA GGCGTAGCAA TAGGATTGGT CACCAAAACC
GATCCTGAGA AGGGTGAAAT AGAAGATTAT CGTTTGCTGA CAGATATTTT
GGGAATTGAA GATTACAATG GTGACATGGA CTTCAAAATA GCTGGCACTA
ATAAAGGAAT AACTGCATTA CAGGCTGATA TTAAATTACC TGGAATACCA
ATAAAAATTG TGATGGAGGC TATTCAACAA GCTTCAGTGG CAAAAAAGGA
GATATTACAG ATCATGAACA AAACTATTTC AAAACCTCGA GCATCTAGAA
AAGAAAATGG ACCTGTTGTA GAAACTGTTC AGGTTCCATT ATCAAAACGA
GCAAAATTTG TTGGACCTGG TGGCTATAAC TTAAAAAAAC TTCAGGCTGA
AACAGGTGTA ACTATTAGTC AGGTGGATGA AGAAACGTTT TCTGTATTTG
CACCAACACC CAGTGTTATG CATGAGGCAA GAGACTTCAT TACTGAAATC
TGCAAGGATG ATCAGGAGCA GCAATTAGAA TTTGGAGCAG TATATACCGC
CACAATAACT GAAATCAGAG ATACTGGTGT AATGGTAAAA TTATATCCAA
ATATGACTGC GGTACTGCTT CATAACACAC AACTTGATAA CGAAAGATTA
AACATCCTAC TGCCCTAGGA TTAGAAGTTG GCCAAGAAAT TCAGGTGAAA
TACTTTGGAC GTGACCCAGC CGATGGAAGA ATGAGGCTTT CTCGAAAAGT
GCTTCAGTCG CCAGCTACAA CCGTGGTCAG AACTTTGAAT GACAGAAGTA
GTATTGTAAT GGGAGAACCT ATTTCACAGT CATCATCTAA TTCTCAGTGA
TTTTTTTTTT TTAAAGAGAA TTCTAGAATT CTATTTTGTC TAGGGTGATG
TGCTGTAGAG CAACATTTTA GTAGATCTTC CATTGTGTAG ATTTCTATAT
AATATAAATA CATTTTAATT ATTTGTACTA AAATGCTCAT TTACATGTGC
CATTTTTTTA ATTCGAGTAA CCCATATTTG TTTAATTGTA TTTACATTAT
AAATCAAGAA ATATTTATTA TTAAAAGTAA GTCATTTATA CATCTTAGA

FIG. 9B

```
DGPFLLPRRD RALTQLQVRA LWSSAGSRAV AVDLGNRKLE ISSGKLARFA
DGSAVVQSGD TAVMVTAVSK TKPSPSQFMP LVVDYRQKAA AAGRIPTNYL
RREVGTSDKE ILTSRIIDRS IRPLFPAGYF YDTQVLCNLL AVDGVNEPDV
LAINGASVAL SLSDIPWNGP VGAVRIGIID GEYVVNPTRK EMSSSTLNLV
VAGAPKSQIV MLEASAENIL QQDFCHAIKV GVKYTQQIIQ GIQQLVKETG
VTKRTPQKLF TPSPEIVKYT HKLAMERLYA VFTDYEHDKV SRDEAVNKIR
LDTEEQLKEK FPEADPYEII ESFNVVAKEV FRSIVLNEYK RCDGRDLTSL
RNVSCEVDMF KTLHGSALFQ RGQTQVLCTV TFDSLESGIK SDQVITAING
IKDKNFMLHY EFPPYATNEI GKVTGLNRRE LGHGALAEKA LYPVIPRDFP
FTIRVTSEVL ESNGSSSMAS ACGGSLALMD SGVPISSAVA GVAIGLVTKT
DPEKGEIEDY RLLTDILGIE DYNGDMDFKI AGTNKGITAL QADIKLPGIP
IKIVMEAIQQ ASVAKKEILQ IMNKTISKPR ASRKENGPVV ETVQVPLSKR
AKFVGPGGYN LKKLQAETGV TISQVDEETF SVFAPTPSVM HEARDFITEI
CKDDQEQQLE FGAVYTATIT EIRDTGVMVK LYPNMTAVLL HNTQLDNERL
NILLP·
```

FIG. 10A

```
B subtilis  ......................MGQEKHVFTIDWAGRTLT  18
human       DGPFLLPRRDRALTQLQVRALWSSAGSRAVAVDLGNRKLE  40
Consensus                                   d   r l

B subtilis  VETGQLAKQANGAVMIRYGDTAVLSTATASKEPKPLDFFP  58
human       ISSGKLARFADGSAVVQSGDTAVMVTAVSKTKPSPSQFMP  80
Consensus      g la  a g      gdtav  ta     p p  f p

B subtilis  LTVNYEERLYAVGKIPGGFIKREGRPSEKAVLASRLIDRP  98
human       LVVDYRQKAAAAGRIPTNYLRREVGTSDKEILTSRIIDRS  120
Consensus   l v y     a g ip     re   s k  l sr idr

B subtilis  IRPLFADGFRNEVQVISIVMSVDQNCSSEMAAMFGSSLAL  138
human       IRPLFPAGYFYDTQVLCNLLAVDGVNEPDVLAINGASVAL  160
Consensus   irplf  g     qv      vd        a  g s al

B subtilis  SVSDIPFEGPIAGVTVGRIDDQFIINPTVDQLEKSDINLV  178
human       SLSDIPWNGPVGAVRIGIIDGEYVVNPTRKEMSSSTLNLV  200
Consensus   s sdip  gp   v  g id     npt      s  nlv

B subtilis  VAGT.KDAINMVEAGADEVPEEIMLEAIMFGHEEIKRLIA  217
human       VAGAPKSQIVNLEASAENILQQDFCHAIKVGVKYTQQIIQ  240
Consensus   vag  k  i m ea a          ai  g       i

B subtilis  FQEEIVAAVGKEK.SEIKLFEIDEELNEKVKALAEEDLLK  256
human       GIQQLVKETGVTKRTPQKLFTPSPEIVKYTHKLAMERLYA  280
Consensus        v   g  k    klf    e       la e l

B subtilis  AIQVHEKHAREDAINEVKNAVVAKFEDEEHDEDTIKQVKQ  296
human       VFTDYEHDKVSRDEAVNKIRLDTEEQLKEKFPEADPYEII  320
Consensus        e           k          e

B subtilis  ILSKLVKNEVRRLITE.EKVRPDGRGVDQIRPLSSEVGLL  335
human       ESFNVVAKEVFRSIVLNEYKRCDGRDLTSIRNVSCEVDMF  360
Consensus        v  ev r i   e  r dgr     r  s ev

B subtilis  PRTHGSGLFTRGQTQALSVCTLGALGDVQILDGLGVEES.  374
human       KTLHGSALFQRGQTQVLCTVTFDSLESGIKSDQVITAING  400
Consensus      hgs lf rgqtq l   t   l      d

B subtilis  ...KRFMHHYNFPQFSVGETGPMRGPGRREIGHGALGERA  411
human       IKDKNFMLHYEFPPYATNEIGKVTGLNRRELGHGALAEKA  440
Consensus      k fm hy fp     e g   g  rre ghgal e a

B subtilis  IEPVIPSEKDFPYTVRLVSEVLESNGSTSQASICASTLAM  451
human       LYPVIPR..DFPFTIRVTSEVLESNGSSSMASACGGSLAL  478
Consensus   l pvip   dfp t r  sevlesngs s as c   la
```

FIG. 10B

```
B subtilis   MDAGVPIKAPVAGIAMGLVKSG.......EHYTVLTDIQG    484
human        MDSGVPISSAVAGVAIGLVTKTDPEKGEIEDYRLLTDILG    518
Consensus    md gvpi   vag a glv         e y  ltdi g

B subtilis   MEDALGDMDFKVAGTEKGVTALQMDIKIEGLSREILEEAL    524
human        IEDYNGDMDFKIAGTNKGITALQADIKLPGIPIKIVMEAI    558
Consensus     ed  gdmdfk agt kg talq dik  g    i  ea

B subtilis   QQAKKGRMEILNSMLATLSESRKELSRYAPKILTMTINPD    564
human        QQASVAKKEILQIMNKTISKPRASRKENGPVVETVQVPLS    598
Consensus    qqa     eil  m  t s  r       p   t

B subtilis   KIRDVIGPSGKQINKIIEETGVKIDIEQDGTIFISSTDES    604
human        KRAKFVGPGGYNLKKLQAETGVTISQVDEETFSVFAPTPS    638
Consensus    k     gp g    k   etgv i      t        s

B subtilis   GNQKAKKIIEDLVREVEVGQLYLGKVKRIEKFGAFVEIFS    644
human        VMHEARDFITEICKDDQEQQLEFGAVYTATITEIRDTGVM    678
Consensus        a   i         ql  g v

B subtilis   GKDGLVHISELALERVGKVEDVVKIGDEILVKVTEIDKQG    684
human        VKLYPNMTAVLLHNTQLDNERLNILLP.............    705
Consensus     k        l        e

B subtilis   RVNLSRKAVLREEKEKEEQQS                       705
human        .....................                       705
Consensus
```


Half-life of Old-35 mRNA
U ADT 2 6 8 10 12 hr
IFN-β+MEZ induction
EtBr
IFN-β induction
EtBr
Confluency
EtBr
HO-1
EtBr

FIGURE 11

FIGURE 12

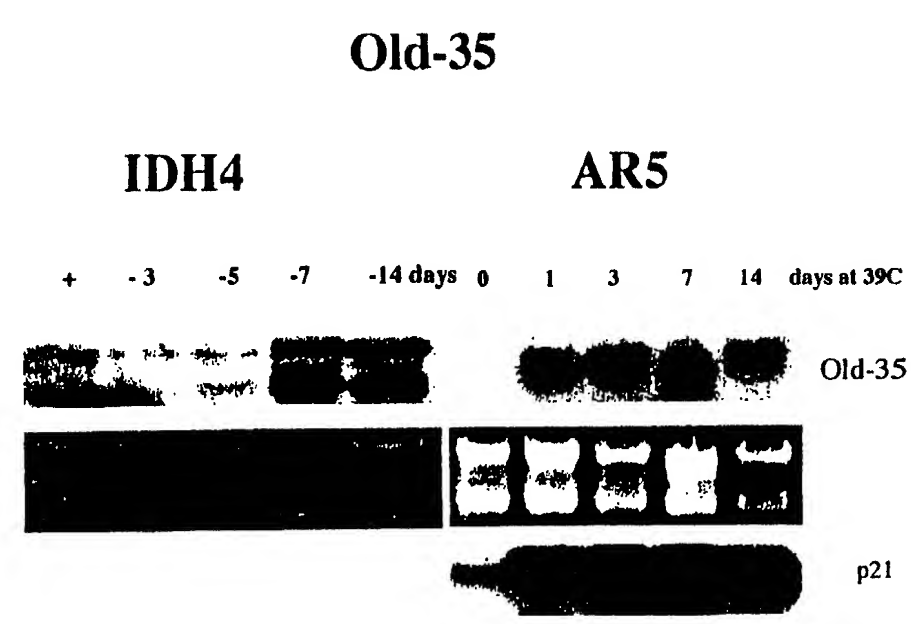


FIGURE 13

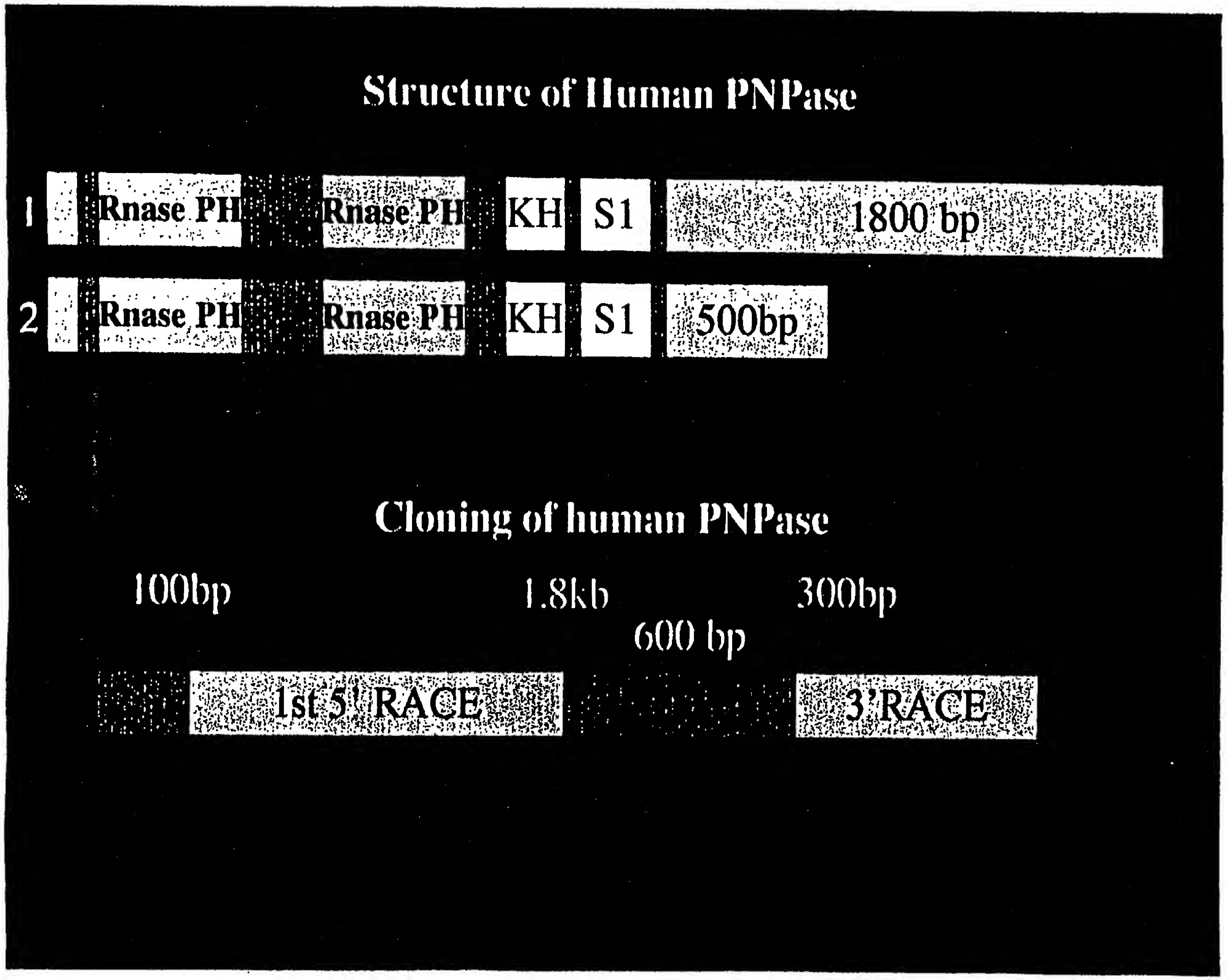

Structure of Human PNPase
1
Rnase PH
Rnase PH
KH
S1
1800 bp
2
Rnase PH
Rnase PH
KH
S1
500bp
Cloning of human PNPase
100bp
1.8kb
300bp
600 bp
1st 5' RACE
3'RACE

FIGURE 14

The effect of subtypes of IFN-α on Old-35 expression

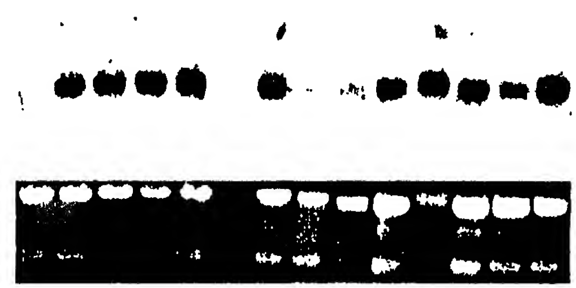


FIGURE 15

Old-35 is expressed in the spinal column
and the genital area

FIGURE 16

Localization of Old-35 In HeLa cells

GFP-hPNPase
40X

GFP
100X